



COMPREHENSIVE INSIGHTS: A STUDY ON ECTOPIC PREGNANCY

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ABSTRACT

Introduction: Ectopic pregnancy is a nightmare for obstetricians. It is a medical emergency and therefore imperative to diagnose early so that timely intervention can be done. Ultrasonography and monoclonal B- HCG are the key investigations for diagnosis. It is the leading cause of first trimester pregnancy related morbidity and mortality.

Aim: 1. To study different clinical presentations of ectopic pregnancy.
2. To study risk factors causing ectopic pregnancy.
3. To study various treatment modalities.

Methodology: Retrospective observational study of 42 cases of ectopic pregnancy in the Department of Obstetrics and Gynecology, tertiary care teaching institute, CAMA and ALBLESS hospital, Mumbai from 1st January 2024 to 31st December 2024. **Results:** The incidence of ectopic was 2.04%, maximum between the age group of 26-30yrs (38.1%). Risk factors were history of curettage (47.6%), PID (14.2%), previous history of ectopic (7%), patient using intra uterine device (4.7%), history of infertility treatment (4.7%). 14.2% were medically managed and 85.8% required surgical intervention. **Conclusion:** The incidence of ectopic pregnancy has risen over the past two decades, but maternal mortality has declined due to improved management and healthcare access.

KEYWORDS : Ectopic pregnancy, Obstetric emergency, Methotrexate, Surgical management.

INTRODUCTION

The word ectopic is derived from Greek; 'EX' and 'TOPOS' means "Out of place". Implantation of fertilized ovum intra or extra uterine at an aberrant site inconducive to growth and development after certain point. It's a life-threatening condition and requires emergency medical interventions. It endangers the life of the women and future fertility by affecting the fallopian tube and/ or ovary. The number of ectopic pregnancies has increased dramatically in the past decades because of multifactorial risk factors like pelvic inflammatory disease, sexually transmitted infections, genital tuberculosis, IUD users, infertility conception or past history of ectopic.

The site of implantation can be in different parts of fallopian tube like ampulla (79.6%), isthmus (12.3%), fimbrial end (6.2%), uterine cornu (1.9%), Ovary (0.15%), cervical (0.15%), abdominal cavity (1.4%).¹ Ectopic pregnancy is also observed in cases of Müllerian anomalies, particularly in a rudimentary horn of the uterus. Highest percentage (98.3%) of ectopic pregnancies occur in the fallopian tubes.¹ Any woman of reproductive age, presenting with the complains of abdominal pain, vaginal bleeding, syncope or hypotension with or without amenorrhoea should raise high index of suspicion of ectopic pregnancy.

The objective of the study is to evaluate etiology, risk factors, early diagnostic methods and to improve the clinical management

METHODS

A retrospective observational study on 42 cases of ectopic pregnancy was carried out in the Obstetrics and Gynaecology Department at CAMA and ALBLESS Hospital, a tertiary care teaching institute in Mumbai, from January 1st to December 31st, 2024. On admission, detailed history and evaluation done which includes patient's identity, age, gravida complains like history of amenorrhoea, pain in the abdomen, vaginal bleeding/ spotting, any attacks of syncope/vomiting or any other symptoms. Clinical evaluation includes tachycardia, hypotension, signs of shock, cold clammy extremities, restlessness and anaemia. Bed side UPT done. Abdominal

examination includes guarding, tenderness, rigidity. Vaginal examination includes presence of bleeding, uterine size, presence of forniceal mass and tenderness, cervical motion tenderness if any. Ultrasonography and beta HCG done.

Acute cases with typical symptoms of ectopic pregnancy were managed by laparotomy. Stable patients were treated laparoscopically or medically with Methotrexate.

Intraoperatively, ectopic pregnancy was confirmed, the condition of tubes, ovaries, uterus, adhesions, hemo-peritoneum, and blood clots were assessed. As the majority had ruptured ectopic and the decision for salpingectomy. In 2 cases partial oophorectomy was done in view of ovarian ectopic. Postoperative monitoring was done, and patients were discharged with follow-up advice and a HPR report.

RESULTS

In present study, the incidence of ectopic pregnancy was 2.04% as 42 cases of ectopic pregnancy was diagnosed out of 2053 deliveries in 2024.

Table no. 1: Age Distribution in Ectopic Pregnancy

Age group (years)	No. of cases	Percentage
22-25	9	21.4
26-30	16	38.1
31-35	9	21.4
36-40	8	19.1
Total	42	100

Table no. 2: Correlation of Parity with Ectopic Pregnancy

Parity	No. of cases	Percentage
Nulliparous	12	28.5
Para 1	14	33.4
Para 2	12	28.5
Para 3	3	7.2
Para 4	1	2.4
Total	42	100

Table no. 3: Risk Factors

Risk factors	No. of cases	Percentage
Previous abortions – Curettage	20	47.6

Tuberculosis	8	19.04
Previous 1 caesarean section	7	16.6
PID (pelvic inflammatory disease)	6	14.2
Previous 2 caesarean section	5	11.9
Previous ectopic	3	7.14
Intra uterine device (IUD) insitu	2	4.7
Infertility conception	2	4.7
None	32	76.1

Table no. 4: General Clinical Presentation

Symptoms	No. of cases	Percentage
Amenorrhoea	39	92.8
Pain	34	80.9
Bleeding	26	61.9
Pallor	30	71.4
Shock	18	42.8
Others	22	52.3

Table no. 5: Examination Findings

Findings	Seen in	Percentage
Abdominal Tenderness	36	85.7
Abdominal Guarding	4	9.5
Bleeding/ spotting	26	61.9
Normal uterine size	27	64.2
Increased Uterine size	15	35.8
Cervical motion tenderness	28	66.7
Forniceal Tenderness	18	42.8
Forniceal Tenderness with adnexal mass	10	23.8

Table no. 6: Ultrasonographic Findings 7 Unstable Patients with a Clinical Diagnosis Were Stabilized and Underwent Emergency Surgical Intervention.

Ultrasound findings	No. of cases	Percentage
Ruptured	17	40.4
Unruptured	18	42.8
Fluid in POD/Hemoperitoneum	15	35.8

Table no. 7: Site of Pregnancy

Site	No. of cases	Percentage
Ampulla	28	66.7
Isthmus	9	21.5
Cornual/interstitial	2	4.7
Ovarian	2	4.7
Scar ectopic	1	2.4
Total	42	100

Table no. 8: Mode of Management and procedure done

Mode of Management	Procedure done	No. of cases	Percentage	Total
Laparotomy	Left salpingectomy	17	40.4	28
	Right salpingectomy	9	21.4	
	Exploratory Partial oophorectomy	2	4.7	
Laparoscopy	Right salpingectomy	5	11.9	8
	Left salpingectomy	2	4.7	
	Suction and evacuation under laparoscopic guidance in scar ectopic	1	2.4	
Medically	-	6	14.2	
Total	-	42	100	

Table no. 9: Intra-operative Findings

Intra- operative findings	No. of cases	Percentage
Ruptured tubal ectopic	21	50
Unruptured tubal ectopic	10	23.8
Unruptured Scar ectopic	1	2.3
Ruptured Ovarian ectopic	2	4.7
Tubal abortion	8	19.04
Hemoperitoneum	18	42.8
Filmy peritubal Adhesions	15	35.8

DISCUSSION

Ectopic pregnancy can occur from menarche to menopause. It is still a major challenge because of its bizarre clinical presentation. It is a significant contributing factor approximately 3.5% to 7.1% of maternal mortality in India.⁵⁻⁶ In other developing countries, the incidence of ectopic is 0.56% to 1.5%, whereas in the present study it is 2.04%.^{7,8}

Rose et al. found the highest number of cases in the age group of 21–30 years (43%).² Whereas Soren M et al. found a total of 55.6%⁴ which is similar to the findings in the present study (59.5%). Rose et al. noted a decline in ectopic pregnancy incidence with increasing parity,² whereas in the present study, the highest incidence was observed in parity 1 (33.4%), followed by nulliparous and para 2 cases (28.5% each). Studies have shown a correlation between lower Socio-economic status and increased risk factors for ectopic pregnancy, due to high incidence of sexually transmitted infections (STIs), leading to pelvic inflammatory disease (PID). It is a known risk factor for tubal damage, which predisposes to ectopic pregnancy. Levin et al. demonstrate the risk of ectopic pregnancy is increased in women with history of PID.¹² Relative risk based upon ICMR Multicentric Case Control Study was 6.4.³ In the present study, 6 patients had a history of PID which contributes to 14.2%.

Rose et al. reported previous abortion as a risk factor in 25.8% of cases, with tubal damage from induced abortion or infection being a key factor.² In this study, 47.6% of patients had a history of abortion and D&C within the past two years. Rose et al. report of a 3.2% had a history of surgery for previous ectopic pregnancy, aligning with this study incidence of 3 cases (7.14%) of repeat ectopic pregnancies. Marchbanks et al. quotes 1.6% incidence of ectopic pregnancy in patients who were on progestin-only contraceptive.¹⁰ In the present series IUCD was used by only two patients (4.7%). However, majority of the patients with ectopic had no risk factor identified (76.1%). The incidence of ectopic following infertility treatment is much higher compared to who conceived spontaneously.¹¹

No signs or symptoms are pathognomonic of ectopic gestation. Amenorrhoea is the most common complaint (92.8%). Features of shock seen in 18 patients (42.8%). Vaginal bleeding was present in 61.9% comparable to 65.4% and 66.6% in study by Rose et al. and Pendse et al. respectively.^{2,11} On general examination, pallor was seen in 71.4% of cases similar to other studies by Rose et al. and Pendse et al. having an incidence of 70.9% and 84.5% respectively.^{2,11} Abdominal tenderness was present in 83.9% in Rose et al. study similarly in our study it is seen in 85.7% cases.² Pendse et al. reported guarding in 5.4% cases and in the present study it was 9.5%.¹¹ Rose et al. reported cervical motion tenderness in 55.9%, in present study seen in 66.7% patients.² Ultrasonography reported 40.4% of them as ruptured, with hemoperitoneum in 15 cases (35.8%) and in 16 cases (22.2%) ultrasonography was not done and taken up for surgery based on clinical findings. Intraoperatively Soren M et al. reported 47.2% ruptured cases and 27.8% Unruptured cases.⁴ In the present study, 54.7% of cases showed ruptured ectopic and 24.8% were unruptured. Khera et al. and Devi S et al. reported ampullary pregnancy to be 71.7% and 61.53% respectively.^{12,13} In the present study, it was found in 66.7%. Pregnancy in Isthmic region was found to be 21.4% in present study and Khera et al. reported 20.75%.¹² Interstitial/cornual and ovarian pregnancy accounted for 2.4% and 4.7% respectively in our study. Out of the 42 patients, 28 patients underwent open laparotomy out of which majority (45.2%) underwent left salpingectomy and 33.4% right salpingectomy. Laparoscopic salpingectomy was done in 8 patients. Medical management with Methotrexate with multiple dose regimen in 6 patients with a regular B-HCG level follow up. Blood transfusion was given in 26 patients (61.9%) either intra

operatively and/or post operatively. The HPR reports were reviewed, with findings for 36 patients aligning with intra-operative observations, while the remaining 6 were managed medically. No mortality is observed in present study.

CONCLUSION

Ectopic pregnancy remains a leading cause of maternal morbidity and mortality. Early diagnosis and prompt management reduces the morbidity. The use of minimally invasive surgery or medical management can improve the outcome. Mass education regarding safe abortion practices and post abortal care should be promoted. Unsupervised usage of MTP pill should be condemned.

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